



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE.  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,580	03/09/2001	Yoshiki Nakagawa	1581/00234	2233

30678 7590 04/27/2004

CONNOLLY BOVE LODGE & HUTZ LLP  
SUITE 800  
1990 M STREET NW  
WASHINGTON, DC 20036-3425

EXAMINER

ZALUKAEVA, TATYANA

ART UNIT	PAPER NUMBER
----------	--------------

1713

DATE MAILED: 04/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/719,580

Applicant(s)

NAKAGAWA ET AL.

Examiner

Tatyana Zalukaeva

Art Unit

1713

2/19

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-17 and 20-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-17 and 20-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 18.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 01/30/2004 has been entered.

2. Claims 1,3-17, 20-36 are pending.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,3, 4, 9-13, 17, 20, 27, 30-36 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0357036.

EP'036 discloses a method for preparing comb/branched polymer consisting of a methacrylic macromonomer, as a branch ingredient, and acrylic ester as a backbone ingredient 9abstract), wherein the macromonomer synthesis is presented in the paragraph bridging pages 7 and 8, this macromonomer having molecular weight distribution of 1.2. (page 8, lines 9,10). The ratio of a macromonomer to acrylic ester monomer is 60-90/8-40. This meets the limitations of the instant claims 1, 3, 10, 11, 17,

Art Unit: 1713

27, 30, 33, The macromonomer is prepared by living polymerization, as per instant claim 4 (page 6, line 26). Another method of making the macromonomer is a radical polymerization in the presence of a chain transfer agent (page 6, line 30). This meets the limitations of the instant claim 9. With regard to claim 13, see page 6, lines 30-32. The macromonomer has number average molecular weight between 3000-50000, which meets the limitations of the instant claim 16. Styrene monomer for the main chain is named on page 3, line 54, and reads on the limitations of claim 12 A thermoplastic elastomer (as per claim 34) comprising the polymer of the instant claims is described on page 7, lines 34-40. In claims 35 and 36 the preamble merely recites a statement of intended use or purpose, and does not limit the scope of the claim, since the statements in preamble merely define the context in which the invention operates, as per *DeGeorge v. Bernier*, 226 USPQ 758,761, n.3 (Fed.Cir. 1985).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 1713

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
8. Claims 5-8, 14-16, 21-24, 28 29 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP'036. The above claims are directed to the process of making the POLYMER comprising reacting of a macromonomer with other vinyl monomer under certain conditions. The limitations of the instant claims 5-8, 14-16, 21-24, 28 29 that are not expressly met by the disclosure of EP'306 are those related to the method of preparing the macromonomer per se, which is a starting product in the claimed process. Thus these limitations are related to a product-by-process incorporated in the other process claims.

However, there is no evidence, or no reason to believe that the process of making macromonomer as instantly claimed produces a different macromonomer, that of a EP'036, consult In re Thorpe, 227 USPQ 964 (CAFC 1985), wherein the Examiner

Art Unit: 1713

rejected product-by-process claims over a product, which although prepared in a different manner, appeared to be the same (prima facie) as the claimed product.

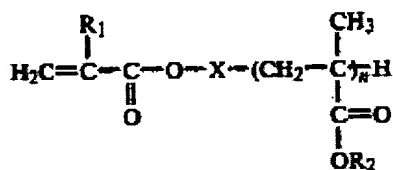
Furthermore, because of the nature of product-by process claims, the Examiner cannot ordinary focus on the precise difference between the claimed product and the disclosed product. It is then Applicants' burden to prove that an unobvious difference exists. See

*In re Marosi*, 218 USPQ 289, 292-293 (CAFC 1983).

In the instant case no Graham vs. John Deere analysis was made but rather the test set out in MPEP 706.03(e) and In re Marosi was applied while explaining why the claimed product does not patentably distinguish over the prior art under 35 USC 102/103.

9. Claims 1, 3-17, 20-36 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kerscher et al (U.S. 5,254,632).

Kerscher discloses a macromonomer of Formula I



wherein R1 is hydrogen or methyl, X is a biradical, R2 is an alkyl group of 1-40 carbon atoms and n is such that the molecular weight of the macromonomer ranges from 500-100,000 Dalton. (abstract, col.7, lines 10-35,) The macromonomers are used to prepare the comb/branched polymers having a (meth)acrylate or styrene backbone (col.6, lines 15-42, col.8, lines 1-11). With regard to the method of making of a

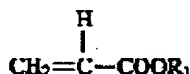
Art Unit: 1713

macromonomer per se the rationale discussed above in paragraph 4 of the present communication is incorporated herein in its entirety.

10. Claims 1, 3-17, 20-36 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Siol et al et al (U.S. 5,483,003).

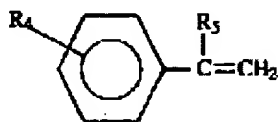
Siol discloses method of making thermoplastically processible elastomers based on acrylates, which contain 40-100 wt. % of one or more comb polymers having a molecular weight greater than 50,000 Dalton, comprised of:

(A) 5-50 wt. % of macromonomers comprised of methyl methacrylate or copolymers of methyl methacrylate with comonomers chosen from other (meth)acrylic acid esters and styrenes; containing a terminal unit with a radically polymerizable group and having a glass transition temperature (T<sub>g</sub>) of at least 60C., a molecular weight in the range 500-100,000 Dalton (B) 5-90 wt. %, based on the total weight of the comb polymer, of monomers or monomer mixtures of formula I



where R<sub>1</sub> is a C<sub>1</sub> -C<sub>12</sub> -alkyl group; and

(C) 5-50 wt. % based on the total weight of the comb polymer, of a phenyl group-containing radically polymerizable monomer of formula



(abstract, col. 1, lines 60-67, col.2 lines 1-55 ).

Art Unit: 1713

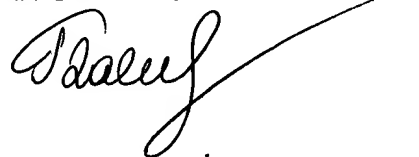
Macromonomers are prepared by living anionic or cationic polymerization, or by radical polymerization wherein a polymerizable end group is introduced by initiation or by chain cleavage and/or subsequent chemical reaction. See also col.3, lines 5-11, col.4, lines 1-55 and Examples 1,2. With regard to the limitations of the process employed to obtain a starting product, the rationale applied above is incorporated herein.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (571) 272-1115. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tatyana Zalukaeva  
Primary Examiner  
Art Unit 1713



April 19, 2004